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Attorney's Docket No. 5683P012

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Andrew Augustine WAJS

Examiner: Not yet assigned

Application No.: New application

Art Group: Not yet assigned

Filed: Herewith

For: METHOD FOR CONTROLLING THE
USE OF A PROGRAM SIGNAL IN A
BROADCAST SYSTEM, AND
CONTROL DEVICE FOR A
RECEIVER FOR CARRYING OUT
SUCH A METHOD

National Phase Filing of:

PCT/EP 00/13393

filed 18 December 2000

Assistant Commissioner of Patents
Washington, DC 20231-9998

PRELIMINARY AMENDMENT

Sir:

Applicant respectfully requests the Examiner to enter the following
amendments.

IN THE CLAIMS:

Please amend the claims as follows:

1. A method to control the use of a program signal in a broadcast system,
comprising one or more broadcasters and a number of receivers, at least a part of the
receivers having a storage medium to store program signals, wherein the program

signal comprises content signals of a first and a second type, wherein the second type of content signals, is inserted in time slots in the first type of content signals, wherein at least the first type of content signals is scrambled using control words as scrambling keys to obtain a scrambled program signal and wherein the scrambled program signal is broadcasted together with entitlement control messages (ECM's) containing the control words in an encrypted manner using a second key, wherein a decryptor is provided at each receiver for retrieving the control words from the ECM's by decrypting the ECM's, and wherein the control words are delivered by the decryptor for descrambling the program signal, and wherein at least a plurality of ECM's comprises control information to control the decryptor in such a manner that at least the time slots for second type of content signals are maintained in the first type of content signals.

2. A method according to claim 1, wherein a real time clock is operated at the receiver side, wherein the control information of an ECM near the beginning of a time slot for the second type of content signals indicates a delay before a next ECM can be decrypted by the decryptor.

3. A method according to claim 1, wherein the ECM's comprise first ECM's for the first type of content signals and second ECM's for the second type of content signals, wherein at least a plurality of first and second ECM's is provided with control information, wherein the decryptor checks the control information and delivers decrypted control words of the first or second ECM's in accordance with the control information to descramble content signals of the first or second type, respectively.

4. A method according to claim 3, wherein the control information of said plurality of ECM's comprises timing information, wherein a real time clock is operated

at the receiver side, wherein the decryptor checks the timing information of each ECM by means of the real time clock and continues to deliver control words of the ECM's for descrambling the program signal only if the timing information corresponds with the time indication provided by the real time clock.

5. A method according to claim 4, wherein a sequence identifier and a minimum delay which should pass before a next ECM should be decrypted are added to said plurality of ECM's as timing information, wherein the decryptor checks the time passed by means of the real time clock and continues to deliver a next control word only if the time passed corresponds with the minimum delay

6. A method according to claim 1, wherein the control information of the ECM's comprises a sequence identifier including an index number of the previous and/or next ECM's, wherein the decryptor checks the index number of a received ECM against the expected index number, wherein the control word is only provided if the index number received matches the expected index number.

7. A method according to claim 1, wherein the control information of an ECM comprises information on the insertion of the second type of content signals in the first type of content signals.

8. A method according to claim 3, wherein at least a plurality of first ECM's provides control information for the decryptor indicating the decryptor to use a plurality of second ECM's, wherein the control information may comprise timing information on the time period for using first ECM's and on the time period for using second ECM's, and information on the point within the first type of content signals for inserting the second type of content signals.

9. A method according to claim 8, wherein the second type of content signals comprise content signals with corresponding ECM's representing various contents, wherein the control information of at least a part of said plurality of first ECM's comprises selection identifiers to allow only a selected content signal with corresponding ECM's to be used for insertion into the first type of content signals as second type of content signals, wherein in particular the selection identifiers select the content signal depending on the time of the day.

10. A method according to claim 8, wherein the decryptor forces the receiver to use all second ECM's corresponding to the time period indicated for using the second ECM's independent of the receiver being tuned to the corresponding program signal source.

11. A method according to claim 1, wherein the ECM's are inserted in the program signal in synchronisation with the change of the control words used to scramble the program signal.

12. A method according to claim 1, wherein the decrypting means is provided as a software module broadcasted by a broadcaster, wherein the software module is executed in the receivers, wherein the software module is regularly changed by the broadcaster.

13. A method according to claim 3, wherein an ECM of the first ECM's for the first type of content signals comprises control information to switch the decryptor to deliver only first ECM's for the first type of content signals if the decryptor indicates a viewing mode allowing the use of the first content signals only.

16. A control device according to claim 14, further comprising a real time clock, wherein the decryptor is adapted to check the timing information in the control information of each ECM by means of the real time clock and to continue to deliver control words of the ECM's to descramble the program signal only if the timing information corresponds with the time indication provided by the real time clock.

REMARKS

If there are any additional charges, please charge Deposit Account No. 02-2666.
If a telephone interview would in any way expedite the prosecution of the present application, the Examiner is invited to contact André L. Marais at (408) 947-8200.

Respectfully submitted,

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Dated: 08/21/, 2001



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IN THE CLAIMS:

1. (Amended) [Method for controlling] A method to control the use of a program signal in a broadcast system, comprising one or more broadcasters and a number of receivers, at least a part of the receivers [preferably] having a storage medium [for storing] to store program signals, wherein the program signal comprises content signals of a first and a second type, wherein the second type of content signals, is inserted in time slots in the first type of content signals, wherein at least the first type of content signals is scrambled using control words as scrambling keys to obtain a scrambled program signal and wherein the scrambled program signal is broadcasted together with entitlement control messages (ECM's) containing the control words in an encrypted manner using a second key, wherein [decrypting means are] a decryptor is provided at each receiver for retrieving the control words from the ECM's by decrypting the ECM's, and wherein the control words are delivered by the [decrypting means] decryptor for descrambling the program signal, [characterized in that] and wherein at least a plurality of ECM's comprises control information to control the [decrypting means] decryptor in such a manner that at least the time slots for second type of content signals are maintained in the first type of content signals.

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3. (Amended) [Method] A method according to claim 1, wherein the ECM's comprise first ECM's for the first type of content signals and second ECM's for the second type of content signals, wherein at least a plurality of first and second ECM's is provided with control information, wherein the [decryption means] decryptor checks the control information and delivers decrypted control words of the first or second ECM's in accordance with the control information to descramble content signals of the first or second type, respectively.

4. (Amended) [Method] A method according to claim 3, wherein the control information of said plurality of ECM's comprises timing information, wherein a real time clock is operated at the receiver side, wherein the [decrypting means] decryptor checks the timing information of each ECM by means of the real time clock and continues to deliver control words of the ECM's for descrambling the program signal only if the timing information corresponds with the time indication provided by the real time clock.

5. (Amended) [Method] A method according to claim 4, wherein a sequence identifier and a minimum delay which should pass before a next ECM should be decrypted are added to said plurality of ECM's as timing information, wherein the [decrypting means] decryptor checks the time passed by means of the real time clock and continues to deliver a next control word only if the time passed corresponds with the minimum delay

6. (Amended) [Method] A method according to [any one of claims 1-5] claim 1, wherein the control information of the ECM's comprises a sequence identifier including an index number of the previous and/or next ECM's, wherein the [decrypting means] decryptor checks the index number of a received ECM against the

expected index number, wherein the control word is only provided if the index number received matches the expected index number.

7. (Amended) [Method] A method according to claim 1, wherein the control information of an ECM comprises information on the insertion of the second type of content signals in the first type of content signals.

8. (Amended) [Method] A method according to claim 3 [and 7], wherein at least a plurality of first ECM's provides control information for the [decrypting means] decryptor indicating the [decrypting means] decryptor to use a plurality of second ECM's, wherein the control information may comprise timing information on the time period for using first ECM's and on the time period for using second ECM's, and information on the point within the first type of content signals for inserting the second type of content signals.

9. (Amended) [Method] A method according to claim 8, wherein the second type of content signals comprise content signals with corresponding ECM's representing various contents, wherein the control information of at least a part of said plurality of first ECM's comprises selection identifiers [for allowing] to allow only a selected content signal with corresponding ECM's to be used for insertion into the first type of content signals as second type of content signals, wherein in particular the selection identifiers select the content signal depending on the time of the day.

10. (Amended) [Method] A method according to claim 8 [or 9], wherein the [decrypting means enforces] decryptor forces the receiver to use all second ECM's corresponding to the time period indicated for using the second ECM's independent of the receiver being tuned to the corresponding program signal source.

11. (Amended) [Method] A method according to [any one of the preceding claims] claim 1, wherein the ECM's are inserted in the program signal in synchronisation with the change of the control words used to scramble the program signal.

12. (Amended) [Method] A method according to [any one of the preceding claims] claim 1, wherein the decrypting means is provided as a software module broadcasted by a broadcaster, wherein the software module is executed in the receivers, wherein the software module is regularly changed by the broadcaster.

13. (Amended) [Method] A method according to claim 3, wherein an ECM of the first ECM's for the first type of content signals comprises control information to switch the [decrypting means] decryptor to deliver only first ECM's for the first type of content signals if the [decrypting means] decryptor indicates a viewing mode allowing the use of the first content signals only.

14. (Amended) [Control] A control device for a receiver for carrying out the method according to [any one of the preceding claims] claim 1, comprising [decrypting means for retrieving] a decryptor to retrieve the control words from ECM's by decrypting the ECM's, and for delivering decrypted control words descrambling a program signal, [characterized in that] wherein the [decrypting means] decryptor is adapted to check the control information of the decrypted ECM's and to insert a time slot in the first type of content signals as indicated by the control information.

15. (Amended) ~~[Control]~~ A control device according to claim 14, wherein the ~~[decrypting means]~~ decryptor delivers decrypted control words of the first or second

1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379</
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16. (Amended) [Control] A control device according to claim 14 [or 15], further comprising a real time clock, wherein the [decrypting means] decryptor is adapted to check the timing information in the control information of each ECM by means of the real time clock and to continue to deliver control words of the ECM's [for descrambling] to descramble the program signal only if the timing information corresponds with the time indication provided by the real time clock.